Rivers Control Council, engineers and others interested in hydrology, who, in the past, have been handicapped by lack of basic data, should reap considerable benefit. A start has been made on this work, but owing to lack of staff the full results are unlikely to be available for publication for a considerable time.

During the war the annual publication of meteorological observations was suspended. In the past year some of the leeway was made up with the publication of the observations for 1941 and 1942, while the 1943 and 1944 volumes are ready for printing.

Many inquiries were dealt with from other Government Departments and from the community in general. Of the more important investigations carried out may be mentioned the study of extreme rainfalls in various river catchments, temperature and humidity statistics required in the design of air-conditioning plant, the probable reliability of electric power produced by wind generators, and average weather conditions at various existing and proposed aerodromes and seadromes. Each year increasing use is being made of the information available in the Climatological Section.

Reporting Organization and Instruments

The New Zealand Meteorological Service is responsible for the weather-reporting organization not only within the Dominion, but for all British islands in the Pacific east of longitude 170° E.—*i.e.*, from north of the Equator in the Gilbert Group to Campbell Island in the south, and as far east as Pitcairn Island. New Zealand has also been operating the Norfolk Island meteorological station on behalf of Australia.

Radiosonde stations are established at Lauthala Bay (Fiji), Norfolk Island, Auckland, Hokitika, and Taieri, but, due principally to temporary lack of supplies, observations have been suspended at Fiji, Norfolk Island, and Taieri. Supplies for Auckland and Hokitika were maintained by the use of recovered and other salvaged transmitters which were reconditioned by the Dominion Physical Laboratory.

During the year, meteorological observers were posted to Aitutaki and Rarotonga, and upper-wind observations are now made at the 20 stations listed below. In the four cases indicated, radar methods are used :—

Apia.	New Plymouth.
Aitutaki.	Gisborne.
Rarotonga.	Ohakea (radar).
Tonga.	Wellington.
Lauthala Bay (radar).	Blenheim.
Nandi.	Nelson.
Raoul Island.	Hokitika.
Norfolk (radar).	Christchurch.
Waipapakauri.	Taieri.
Whenuapai (radar).	Invercargill.

During the year, 6 new reporting stations were established within New Zealand, mainly to supply additional reports required by new internal air lines. The stations were located at Kaikohe, Onerahi, Little Barrier Island, French Pass, Havelock, and Invercargill. One station - Motueka—was discontinued. In addition, a greater coverage of reports was arranged from several lighthouse stations and, for fire-hazard forecasting, from selected stations in the central North Island.

The total number of synoptic reporting stations in operation at the end of the period under review was 140, of which 104 are within New Zealand itself, and the remainder in the islands.

The organizing of weather reports from inter-colonial and overseas ships was accelerated during the year, and the position of Officer in Charge of Marine Reporting was established. Barometers were installed on 4 more vessels, and the number of New Zealand selected weather-reporting ships now totals 16. During the past twelve months a total of 5,396 ships' reports were received. The corresponding figure for the twelve-month period before the outbreak of war was 3,911. Regular inspections of vessels calling at Auckland, Wellington, and Lyttelton were carried out, a total of 45 ships being visited.